



PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement ("Agreement"), effective this 17 day of July, 2023, is by and between **ROADWAY ASSET SERVICES, LLC**, having offices at 6001 W Parmer Lane, Suite 370-1102, Austin, TX 78727 ("RAS"), and Village of Arlington Heights, having offices at 33 S. Arlington Heights Rd, Arlington Heights, IL 60005 ("Client"). Hereinafter, RAS and Client shall be collectively referred to as the "Parties" or individually referred to as a "Party."

WHEREAS it is in the best interest of Client to enter into a contract with the named company to provide professional services, hereinafter, Project.

NOW, THEREFORE, the parties hereto agree as follows:

(1) SCOPE OF WORK

- (a) RAS shall provide to Client the requested professional services as described herein as Attachment A and listed under "Full Network Survey 2023".
- (b) In performing its work under this Agreement, RAS shall perform its services to the standard of care of a reasonable professional that is performing the same or similar work, at the same time and locality and under the same or similar conditions faced by RAS (Standard of Care).
- (c) If any change proposed by the Client to the requested professional services described in Attachment A causes an increase or decrease in the cost and/or time required for performance of this Agreement, RAS shall notify the Client and the change will be reduced to writing mutually agreed to by both parties and will modify this Agreement accordingly.

(2) COMPENSATION

- (a) The compensation to be paid to RAS for providing the requested services shall be A "Fixed Price" (Lump Sum) amount of \$ 79,738.00 paid in accordance with Attachment A.
- (b) If RAS' Services under this Agreement are delayed, suspended, or interrupted for reasons beyond RAS' control, RAS' compensation and schedule shall be equitably adjusted at the time of performance.
- (c) RAS shall submit invoices to the Client for work accomplished during each financial month, unless otherwise required by the scope/compensation for this Agreement. The amount of each monthly invoice shall be determined on the "percentage of completion method" whereby RAS will estimate the percentage of the total work (provided on a Fixed Price basis) accomplished during the invoicing period. Such invoices shall be submitted by RAS as soon as practicable after the end of the calendar month in which the work was accomplished. The Client agrees that the monthly invoice from RAS is correct, conclusive, and binding on the Client unless the Client within fourteen (14) working days from the date of receipt of such

invoice, notifies RAS in writing of alleged inaccuracies, discrepancies, errors in the invoice, or the need for additional backup.

- (d) The Client, as owner or authorized agent for the owner, hereby agrees that payment as provided herein will be made for said work within 30 days from the date the invoice for same is mailed to the Client at the address set out herein or is otherwise delivered.

(3) PERIOD OF AGREEMENT

This agreement shall become effective upon execution by both parties and shall terminate no later than twelve (12) months following the date of execution unless mutually extended in writing and agreed to by both parties. The deadlines, scope of services, payment schedule, or other facets of the contract may be amended when it is deemed to be in the best interests of the project to do so and agreed to in writing by both parties.

(4) NO WARRANTY

RAS makes no warranties, expressed or implied, or arising by operation of the law or course of performance, custom, usage in the trade or profession, including without limitation the implied warranties of merchantability and fitness for a particular purpose.

(5) MONITORING

RAS shall monitor its performance under this Agreement to ensure that time schedules are being met, the Budget and Scope of Work are being met within the specified time periods, and other performance goals are being achieved.

(6) RIGHT OF TECHNICAL REVIEW

Client shall have the right of technical review of the work, and where the work is reasonably found to be erroneous or inadequate technically, may withhold any sum due under the terms of this Agreement, provided, that if the technical deficiencies are subsequently corrected to the satisfaction of Client, any sums withheld will then be made available to RAS as provided under this Agreement.

(7) NON-DISCRIMINATION

(a) Compliance with Regulations. RAS shall comply with all of the requirements imposed by Title VI of the Civil Rights Act of 1964 and with the Regulations of the U.S. Department of Transportation relative to non-discrimination and maximum opportunities for Minority Business Enterprises (MBE) in carrying out the Project. These actions are described in 49 CFR Part 21, "Non-Discrimination in Federally Assisted Programs of the Civil Rights Act of 1964" and Part 23 "Participation by Minority Business Enterprise in Department of Transportation Program"

hereinafter referred to as Regulations which are being incorporated by reference and made a part of this Agreement.

(1) Equal Employment Opportunity. In carrying out the Project, RAS shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. RAS shall insert the foregoing provision modified only to show the particular contractual relationship in all its contracts in connection with the development or operation of the Project, except contracts for standard commercial supplies or raw materials, and shall require all subcontractors to insert a similar provision in all subcontracts, except subcontracts for standard commercial supplies or raw materials.

(2) Non-Discrimination. RAS with regards to work performed by it on the Project, shall not discriminate on the selection or retention of subcontractors including procurements of material and leases of equipment. RAS shall not participate, either directly or indirectly, in the discrimination prohibited by Section 21.5 of the Regulations.

(3) Solicitations for Subcontractors Including Procurements of Materials and Equipment. In all solicitations made by competitive bidding or negotiation by RAS of materials and leases of equipment, each potential subcontractor, supplier, or lessor shall be notified of obligations under this contract and Regulations relative to discrimination on the grounds of race, religion, sex, or national origin.

(8) DISPUTE RESOLUTION

If a dispute arises out of or related to this Agreement or the breach thereof, the parties will attempt to settle the matter between themselves. If no agreement can be reached the parties agree to use mediation with a mutually agreed upon mediator before resorting to a judicial forum. The cost of a third-party mediator will be shared equally by the parties. In the event of litigation, the prevailing party will be entitled to reimbursement of all reasonable costs and attorneys' fees. The parties mutually agree that a similar dispute resolution clause will be contained in all other contracts executed by Client concerning or related to this contract and all subcontracts executed by RAS.

(9) CONTROLLING LAW

This Agreement is to be governed by the laws of the State of Texas.

(10) FORCE MAJEURE

RAS shall not be responsible for delays or failures in performance resulting from acts beyond its reasonable control. Such acts shall include, but not be limited to, acts of God, strikes, acts of war, epidemics, Government regulations superimposed after the fact, fire, communication line failures,



power failures, earthquakes, acts of terrorism, or other disasters. Time of performance and compensation to RAS shall be adjusted appropriately for any such event.

(11) LIABILITY

RAS agrees to hold Client harmless against all claims of whatever nature arising out of the RAS's negligent acts, errors, or omissions in the performance of work under this Contract, to the extent allowed and required by law. The limit of liability of RAS to the Client for any cause or combination of causes shall be, in total amount, limited to the fees paid under this Agreement.

(12) INSURANCE

RAS shall at all times carry Workers' Compensation insurance as required by statute, commercial general liability insurance including bodily injury and property damage; automobile liability coverage; and professional liability coverage. Insurance certificates will be provided to the Client upon request.

(13) EXECUTION OF AGREEMENT

This contract may be simultaneously executed in several counterparts, each of which so executed shall be deemed to be an original, and such counterparts together shall constitute one and the same instrument.

(14) AGREEMENT FORMAT

All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend to and include the singular. All words in any gender shall extend to and include all genders.

(15) TERMINATION OF THE AGREEMENT

(a) If the necessary funds are not available to fund this project, the Agreement may be terminated immediately, and RAS paid for services rendered up to the time of termination. Written notice of termination, with effective date, shall be provided to RAS five (5) days in advance of termination.

(b) Client may terminate this Agreement for non-performance if, after notifying RAS in writing and following a period of 10 days, corrections are not made to the satisfaction of the designated Project Manager. Without waiving its right to terminate this Agreement, Client may delay, withhold, or adjust payments under this Agreement to provide an opportunity for RAS to fulfill its obligations or correct any violations of the Agreement. Client reserves the right to complete such analysis as is necessary to protect its professional reputation.

(c) In the event of termination of this Agreement, copies of all finished or unfinished documents, data, correspondence, reports, and maps prepared or secured by RAS under this Agreement



shall be delivered to Client offices. Except for termination related to non-performance, Client shall pay reasonable project closure expenses as agreed upon by both parties.

(16) SUCCESSORS AND ASSIGNS

- (a) RAS and Client each binds itself and its partners, successors, executors, administrators, assigns, and legal representatives of such other party, in respect to all obligations of this contract.
- (b) Unless explicitly specified, nothing herein shall be construed to give any rights or benefits hereunder to anyone other than RAS and Client.
- (c) Neither the Client nor RAS will assign or transfer its interest in this Agreement without the written consent of the other, which shall not be unreasonably withheld.

(17) INCLUSION OF NON-PARTICIPATING AGENCIES

Any Agency shall be allowed to participate in this agreement during the life of the contract, even if it is not listed amongst the solicitation participants. While this clause in no way commits Agencies to purchase from RAS, nor does it guarantee any additional orders will result, it does allow Agencies, at their discretion, to make use of [Town/City/Agency Name]'s competitive process (provided said process satisfies their own procurement guidelines) and purchase directly from RAS. All purchases made by other Agencies shall be understood to be transactions between that Agency and RAS; the [Town/City/Agency Name] shall not be responsible for any such purchases.

(18) PROJECT MANAGEMENT

(a) All notices, payment requests, reports, and products provided under or pursuant to this Agreement shall be in writing and shall originate from and be sent to the representatives identified below at the addresses set forth below.

(b) Client Project Manager for this Agreement is:

Aldair Vargas, PE
33 S. Arlington Heights Road
Arlington Heights, IL. 60005
avargas@vah.com 847-368-5254

(c) The Roadway Asset Services Project Manager for this Agreement is:

Zac Thomason
6001 W Parmer Lane, Suite 370-1102
Austin, TX 78727
zthomason@roadwayassetservices.com 623-640-2897


(d) All communication related to work undertaken through this Agreement shall be through the above-named project managers.



ACCEPTANCE of the terms of this Agreement are acknowledged by the following signatures of the Authorized Representatives of the parties to the Agreement.

AS TO:
ROADWAY ASSET SERVICES, LLC

AS TO:
Village of Arlington Heights, IL

 7/6/2023
Signature Date

Zac Thomason
Printed Name

Senior Vice President
Title

7/17/2023
Signature Date

Michael L. Pagones, PE
Printed Name

Village Engineer
Title

Please provide the following billing information:

Purchase Order Number if Required _____

Contact Name Aldair Vargas, PE

Address 1 Engineering Division

Address 2 33 S. Arlington Heights Road

City Arlington Heights State IL Zip 60005

May 5, 2023

Village of Arlington Heights
33 S Arlington Heights Rd.
Arlington Heights, IL 60005

Attention: Aldair Vargas, PE, Civil Engineer II

Reference: RAS Pavement Management Services Proposal

Dear Mr. Vargas,

I appreciate you taking the time to meet with Roadway Asset Services, LLC (RAS) on April 26th to discuss the potential pavement and asset management needs for the Village of Arlington Heights. RAS is headquartered in Austin, TX with a local office in Madison, WI. Our team is a full-service pavement and asset management consultant that collects pavement performance data using laser based automated technologies and analyzes the data using sound financial optimization modeling. RAS currently has committed work in Illinois that will provide the Village an opportunity to schedule data collection in conjunction with this contracted work. Members of the RAS team also have extensive experience working with villages and cities throughout the North and Northwest Suburbs.

In addition, our services include the configuration of many available 3rd party pavement management programs such as **Agile Asset's Pavement Express**, Cityworks, PAVER, Cartegraph, Streetlogix, Brightly, DOT, **BOSS™**, VUEworks, Lucity, and many others. **In the last 5 years, RAS executive team members have managed over 100,000 miles of pavement condition and asset inventory data.**

RAS has invested in the most sophisticated fleet of roadway asset collection (RAC) vehicles and pavement analysis tools for automated data collection that provides a **100% linear assessment of the roads driven**. This methodology removes the subjectivity of rating small sample areas of the road segment. Unlike many of our competitors, **RAS utilizes a ROW capture system to provide an immersive 360 view versus stationary independent camera views**. Furthermore, RAS' RAC vehicles have **received independent inertial profiler certification for accuracy and repeatability from the National Center for Asphalt Technology at Auburn University**. **RAS has a fleet of 4 RAC vehicles** to ensure the Village that we have the staff and resources to complete this assignment in a timely manner. In addition to our fleet, we are including an on-site pilot survey to familiarize the Village staff with the RAS data. This is a critical step for clients transitioning from a windshield ASTM D6433 survey.



Technology and Methodology

Road Data Collection Services – Roadway Asset Collection (RAC) Vehicles

The pavement data will be processed per road segment for the entire roadway network using the continuous and detailed 20-foot linear samples acquired by the RAC Laser Crack Measurement System (LCMS-2) vehicle. RAS will adopt the Village's existing GIS centerlines and the detailed 20-foot level data collected by the RAC vehicle will be rolled up to the segment level for reporting purposes. RAS will deliver industry-standard condition indices such as surface distress reported as the Pavement Condition Index (PCI), IRI reported as a normalized Roughness Index (RI), and optional structural condition data can be reported as Structural Index (SCI). The condition indices and all inventory attributes will be delivered in several formats such as Excel Spreadsheets, ESRI file geodatabases, and in a format compatible for ingesting into the Village's selected PMS.

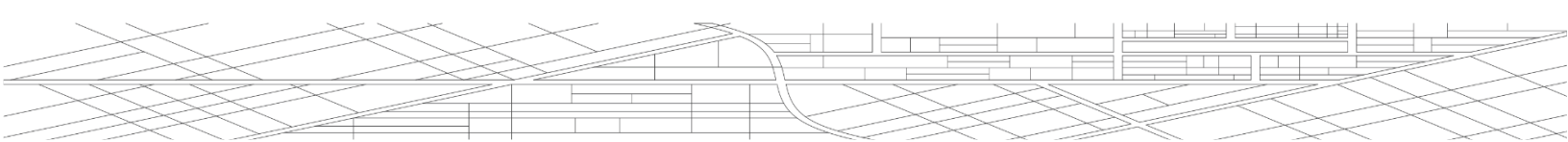
As defined by the Village, the RAC vehicle will survey the Village's 216 centerline miles of paved roadways. RAS can drive all lanes or use a best practices method of single pass testing residential roads and double pass testing arterials and collectors. The resulting survey mileage using the industry best practice is 275 survey miles. We also understand that the Village has previously performed annual surveys for one-third of the network via North, Middle, and South zones. RAS can maintain this approach if it is preferred, though a network-level survey is recommended for practical engineering purposes and cost considerations. If a survey was to be conducted in the middle zone using the same methodology described above, the survey mileage would equate to 91 survey miles.



At the completion of the project, the roadway, right-of-way images, and condition database for the network will be formatted for upload into Village's selected software (assumed to be Pavement Express, PAVER, or BOSS™) the Village's GIS environment, and the RAS web-hosted video logger (if selected by the Village). RAS will calculate an ASTM D6433 equivalent PCI score using the detailed extent and severity distress data captured in the field for each segment, for all road functional classifications, for all maintenance districts (if applicable), and the overall network. In addition, IRI values will be provided for all street functional classifications in accordance with the AASHTO R 57.

To complete the automated pavement condition survey, the RAS team will utilize RAC vehicles from the fleet of four (4), equipped with:

- The LCMS-2 camera is a downward-facing laser array providing images used to evaluate data that conforms with ASTM D6433 protocols, which uses **two 1-millimeter-pixel** resolution line scan cameras to **provide a customized digital condition rating system to collect user defined severity/extent-based pavement distresses. The collection system is able to capture full lane width 3D imagery, full lane width measurements, rutting, and roughness data.**

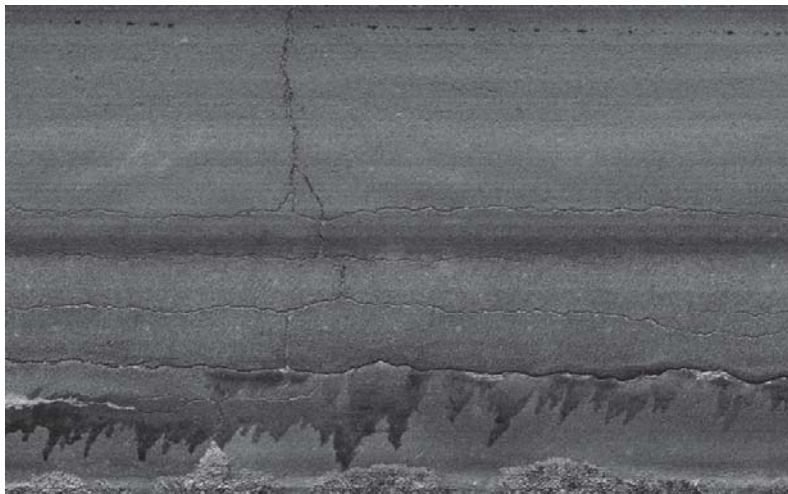


- The pavement distress type, density, severity, and extent are collected with the LCMS-2 and are used to calculate a Pavement Condition Index (PCI) score, between 0-100, that represents the condition of 100% of the driven lanes.
- Point Gray Ladybug 5+ 32MP **360-degree High-Definition camera** (utilized for accurate ROW asset capture, extraction, and pavement QA/QC) is far superior to multiple independently mounted HD cameras. **RAS will deliver the HD images to the Village for review and acceptance at no additional cost.**
- **Linear distance measuring to within +/-0.5%.**
- Applanix POS/LV with DGPS (**Provides accurate internal GPS navigation for geo-locating pavement and right of way asset information**).
- A class 1 inertial profiler for simultaneously capturing dual-wheel path (left and right) International Roughness Index (IRI) measurements to the hundredth inch, in accordance with AASHTO R48. The profiler has gone through **ASTM E-950** certification and **was independently certified by Texas A&M Transportation Institute (TTI) in July 2022**. The inertial profiler meets the requirements and operates in accordance with **AASHTO Standards M 328, R 57-10, R 56-10, and R43M/R43-7**.

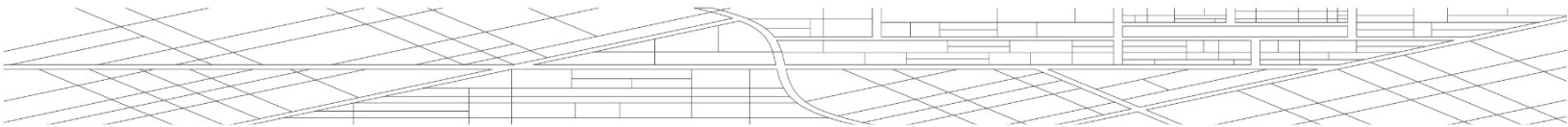


All subsystems for the RAC vans are integrated using tight synchronization between all data streams on the truck in real-time, referenced to both time and distance. All sensor locations are coordinated to the vehicle's reference point, together with the GPS and IMU hardware, using 3D translations and rotations. This allows the final world coordinates of all sensor data streams to be calculated and integrated. The methods for automated data collection and pavement condition rating are repeatable and defensible.

The RAS team will conduct pavement survey work on dry pavement and in lighting conditions that ensure accurate crack detection. We will collect imagery during daylight hours only, with no rain, fog, or snow visibility obstructions. Any road segment(s) that exhibits low image quality due to lighting will be recollected at a later time. The industry is currently migrating toward automated high resolution sensor based ratings for

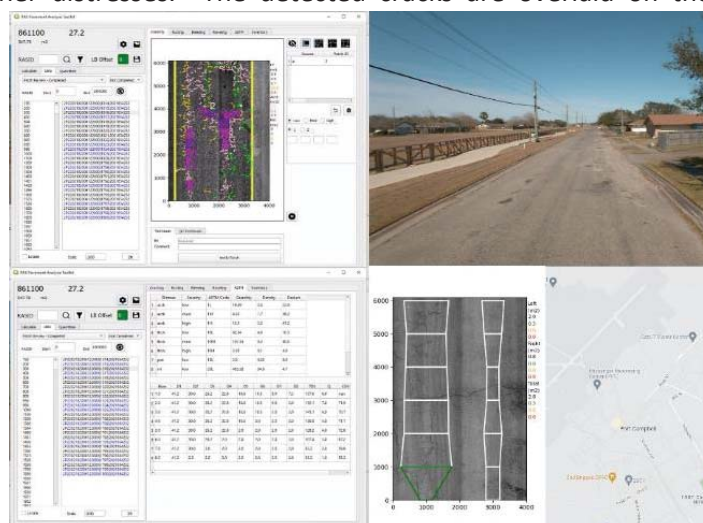


100% linear assessment of the roads, in accordance with guidelines within the **ASTM D6433, ASTM E1656, and ASTM E3303**. This methodology removes the subjectivity of rating small sample areas of the road segment where the sample may not represent the condition of the entire roadway segment.



PCI Data and Reporting

After data is collected in the field and uploaded to the office environment, it is imported using the RAS AI pavement rating tool **Road TRIP™ (Technical Rating Intelligence Program)**. The import process creates mappings to the data so that users do not need to keep track of where the data is stored on central data server(s). At this stage, the major data processing tasks also occur, such as generation of right-of-way and pavement image streams; calculation of profile, roughness, rutting, detection of cracks, lane-markings, man-made objects, and other distresses. The detected cracks are overlaid on the pavement images and offset to assist with the verification of the detected cracks. During reporting, the distress cracks are defined by road zone and accumulated according to the units defined in the client specification. The severity levels are identified based upon the defined limits (ASTM D6433) and verified for resolution through visual quality control checks of image files. Where density metrics are required, these are determined using the length of the interval being reported and the width of road zones included.

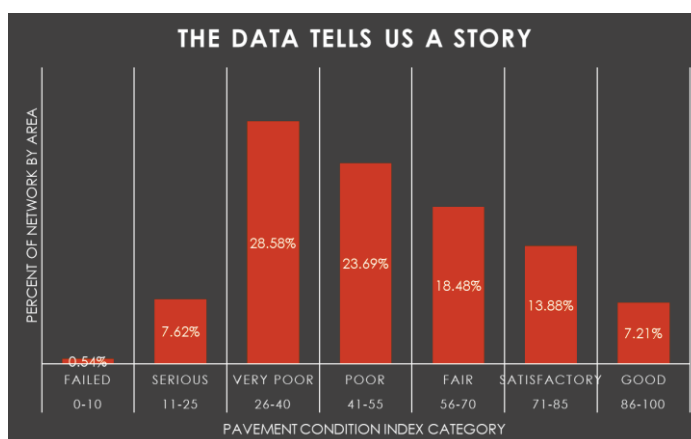


Final Summary Report and PMS Reporting Support

Regardless of which pavement management program is eventually selected, RAS will provide the Village with a final report/executive summary including study objectives, approach to data collection/processing, inventory of all roads, current pavement conditions for each street function classification, total amount of centerline and lane miles surveyed, and network PCI and IRI. In addition, the Village will receive statistical charts, graphs, and area maps illustrating all PCI results, street segment lengths, pavement type, the overall Village's road quality, and findings from the pavement evaluation.

The report will be provided for review by Village staff and modified based on comments to produce a final report which will be delivered as a bound report and in Microsoft Word (.doc and .docx) and Adobe (.pdf) format. All collected pavement data will be in a format for use within the selected pavement management program, Esri ArcInfo GIS software, and Microsoft Power BI. In addition to the final summary of pavement conditions, RAS will work with

Village Staff to optimize their selected PMS capabilities. This will include demonstrating how to develop built-in reports that support all of the stakeholders needs and programming dashboard capabilities.



Advanced Services

RAS Pavement Express Configuration & Training



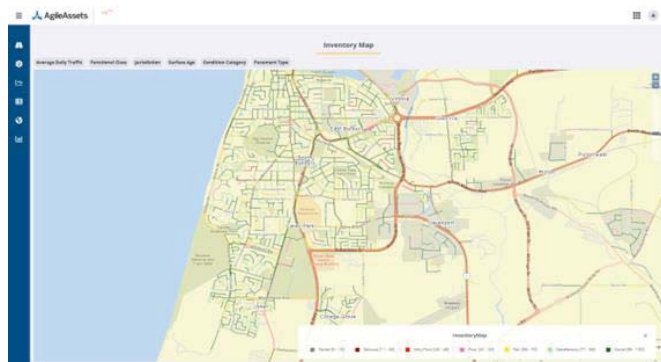
Pavement Express™ is a cloud-based, ready-to-use pavement management system designed for cities, counties, and MPOs. This turnkey solution is based on the industry-leading Pavement Analyst™ software, which has been used by national and state governments for over 25 years. Additional integrations (ArcGIS Online, PowerBI, Crystal Reports) can be created through the AgileAssets API. **Pavement Express is the only pavement management system that retains a native integration with Cityworks.**

- **Inventory management** - View and manage the inventory of the pavement network including total lane miles, pavement type, traffic, road classification, construction history, and other pavement-related attributes.
- **Performance tracking and modeling** - Predict future levels of service for specific pavement areas, determine the best maintenance strategies, and apply your agency's expert opinion in the decision-making process. Pavement Express calculates a PCI according to the ASTM D6433 and allows other custom performance measures/distresses to be analyzed.
- **Multi-Constraint Optimization Analysis** - Analysis allows for the identification of the optimal mix of projects to meet the County's performance goals and maximize the impact of funds. Considers various constraints such as budgeting, pavement performance, roadway surface types, timelines, and more.

Reporting and Dashboards - Track performance at a glance with Pavement Express's dashboards and reporting features. Share key metrics with relevant stakeholders, and drill down to answer specific questions using interactive reports.



- **Product Workflow** - The first step in the analysis is using performance models to calculate and project future pavement conditions. Then, decision trees are employed to capture the logic for determining when work activities should be carried out. A treatment catalog is utilized to determine what work activities can be included in the analysis and their associated costs.
- **GIS**- Pavement Express™ includes advanced GIS tools that allow for visual analysis of the pavement network's attributes and performance. The full-featured GIS interface enables loading of any geospatial data related to pavements and allows users to create multi-layer maps, display current and future network performance, and visualize work plans created with multi-constraint optimization analysis.

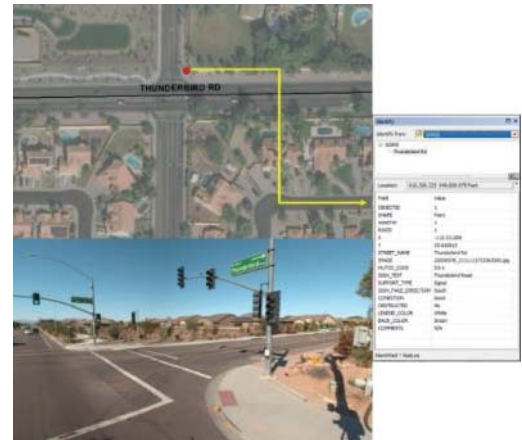


Optional Right of Way Inventory & Condition Assessment

All collected pavement and ROW imagery will be provided in appropriate state plane coordinates while being collected in one continuous pass on residential roadways and two passes on the arterial and collector roadways. The high-definition panoramic Ladybug camera can be used to inventory and capture right-of-way (ROW) assets for extraction. **The images will be collected as a 360-degree right-of-way panorama, including forward, rearward, and downward pavement viewing images.** Each image will be geolocated with at least 1 foot accuracy and delivered in ESRI file geodatabase format.



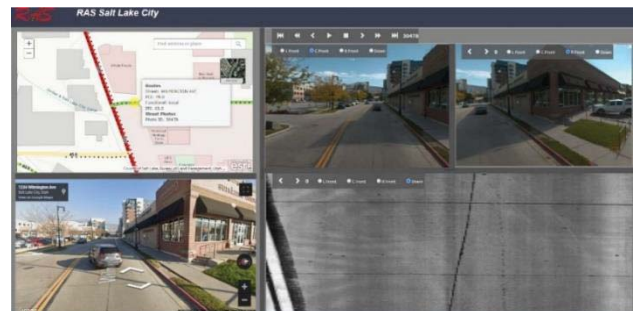
The HD images can be post-processed using RAS software to collect attributes for each asset type captured. For example, **Traffic signs/supports**, which are listed as a point feature, are commonly captured with the following attributes (the final list of attributes will be determined with input from the Village staff): AssetID, X,Y location, sign type (MUTCD code), sign text, photo image link, physical condition rating (good, fair, poor), location, support structure type, sign direction, and comments.



The RAS asset extraction system is not limited to these assets as we can inventory and extract attributes on nearly any asset that can be identified in the images. Other common roadside features for capture include sidewalks, pavement markings/stripping, pedestrian curb ramps, curb/gutter, traffic signals, streetlights, fire hydrants, bus stop shelters, medians, and many others.

Optional RAS Data Viewer & Video Logger

If the Village desires web-hosted condition photos, RAS can provide the Village with the RAS Video Logger which is a web hosted full-service image viewer that allows our clients to select a section of roadway from the GIS-based map to visually display the inventory elements and the results of their survey. The viewer is hosted on a reliable web platform such as Amazon Web Services (AWS).



The RAS Video Logger allows the Village to load pavement and ROW imagery for a specific location within the Village and sequentially travel down the roadway. In addition, the Video Logger **houses the Ladybug Panoramic ROW imagery (all 5 views), LCMS downward pavement imagery**, PCI scores, and right of way inventories.

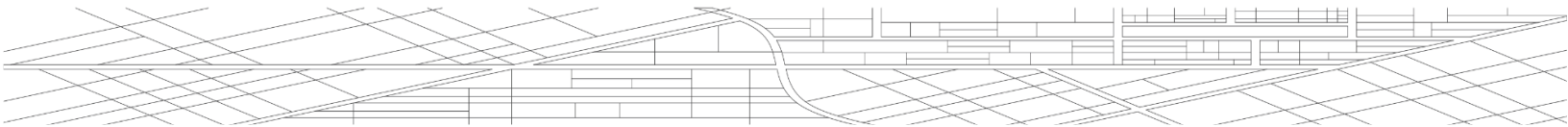
Belief in the Scope and the RAS Team Advantage

The RAS team is comprised of established industry veterans who have dedicated their careers to the field of pavement and asset management. RAS team members have performed over 200 pavement and asset management projects in the last 5 years in accordance with ASTM D6433 and AASHTO R 57, and do not anticipate any challenges or risks. RAS offers the Village the most experienced data collection team to provide assurance that the collection and processing of data will be delivered on schedule.

We have an outstanding record of completing projects of similar size and scale, on time and within budget. The RAS team advantage to the Village of Arlington Heights is as follows:



- **Regional Municipal Experience** – RAS specializes in PCI studies and pavement modeling techniques for municipalities around the Country. RAS' management team has managed or is currently completing pavement or ROW asset inventories for the following regional clients: City of Peoria, City of Rochelle, & Multiple CMAP Agencies in IL; City of Indianapolis, IN; City of Columbus, OH; Memphis, Montgomery County, Clarksville, & Kingsport, TN; Charlotte & Durham, NC; Greenville & Anderson County, SC; Worchester County, MD; and many more municipal agencies.
- **Delivery of Imagery** – RAS views imagery from the condition assessment as pertinent to the Village's quality assurance measures and final acceptance of the data. As such, RAS will deliver all 5 panoramic ladybug image views and the downward LCMS roadway images at no additional fees to the Village. They will be delivered on a hard drive with an associated Personal Geodatabase and/or uploaded to an optional web hosted viewer.
- **10-Mile Virtual Pilot** – The importance of the field pilot cannot be understated as it has become a routine milestone for the RAS Team on all pavement condition projects. The pilot allows RAS to collect, process, and review condition data with Village Staff virtually to ensure accuracy with the data collection and interpretation protocols. RAS will process 10-miles of roadway and review the distress details using a virtual validation tool that illustrates the forward-facing image view, downward 4K view, and the detailed pavement distress data by density & PCI deduct.
- **Software Implementation** – RAS is a full-service pavement management consultant that works with most available 3rd party solutions such as Pavement Express, PAVER, DOT, and many others. We've also developed our own software called BOSS that exports all the results to a Microsoft PowerBI interface. While RAS believes Pavement Express will likely be the best option with its native integration to Cityworks, we stand ready to integrate with other applications if needed.
- **Village Board Presentations** – The RAS team can provide a public presentation to the Village Trustees including data, charts, and all final summary report data to showcase the results of the pavement condition survey. The RAS management team has extensive experience preparing and presenting results of pavement and asset conditions assessments, as well as pavement budget scenarios and maintenance plans to Boards and Commissions as final reports.



Cost Proposal

Below you will find a summary of the budget associated with the services discussed during our meeting. In addition to the pavement management analysis services listed below, we have also provided optional costs for the development of Right of Way Asset inventories and other supplemental services. The RAS services are available for procurement on a national buy board called **HGACBuy**. To give the Village additional contractual options, RAS has honored its buy board rates in the fee structure.

The two options presented below represent the full network survey and a partial one third network update. The full network update is economically advantageous as tasks such as project setup, mobilization, virtual pilots, and pavement analysis modeling only need to be completed once. However, RAS has many clients who update their networks in third's or quarters and understands the advantages with annual updates as well. Included in both options is Pavement Express training, which is generally conducted by the consultant configuring the analysis parameters.

Full Network Survey in 2023

Quan	Description	Unit Pr	Total
1	Centerline Identification, Field Set-up, GPS Network Creation & Mobilization (lump sum)	\$ 7,400.00	\$ 7,400.00
275	Collect Street Network (test mile)* (local roads one pass, arterials/collectors/industrial 2 pass)	\$ 90.00	\$ 24,750.00
275	Pavement Condition Index - Modified ASTM D6433 AI with 100% rating (PCI) (test mile)*	\$ 40.00	\$ 11,000.00
432	Pavement Widths (lane miles)	\$ 9.00	\$ 3,888.00
1	Pavement Report with 1 round of multi-year Budget Scenarios (lump sum)	\$ 25,000.00	\$ 25,000.00
1	RAS data reviews (Virtual Pilot) (per day)	\$ 2,500.00	\$ 2,500.00
8	Sr. Pavement Consultants (hourly)	\$ 275.00	\$ 2,200.00
20	Training Services (PavementExpress Hourly)	\$ 150.00	\$ 3,000.00
	Based on 100% coverage of lanes driven*		
Total From Other Sheets, If Any:			
RAS will bill lump sum based on percent complete for each task item			Subtotal A: \$ 79,738.00

Middle Zone Survey in 2023

Quan	Description	Unit Pr	Total
1	Centerline Identification, Field Set-up, GPS Network Creation & Mobilization (lump sum)	\$ 7,400.00	\$ 7,400.00
91	Collect Street Network (test mile)* (local roads one pass, arterials/collectors/industrial 2 pass)	\$ 90.00	\$ 8,190.00
91	Pavement Condition Index - Modified ASTM D6433 AI with 100% rating (PCI) (test mile)*	\$ 40.00	\$ 3,640.00
156	Pavement Widths (lane miles)	\$ 9.00	\$ 1,404.00
1	Pavement Report with 1 round of multi-year Budget Scenarios (lump sum)	\$ 20,000.00	\$ 20,000.00
1	RAS data reviews (Virtual Pilot) (per day)	\$ 2,500.00	\$ 2,500.00
4	Sr. Pavement Consultants (hourly)	\$ 275.00	\$ 1,100.00
20	Training Services (PavementExpress Hourly)	\$ 150.00	\$ 3,000.00
	Based on 100% coverage of lanes driven*		
Total From Other Sheets, If Any:			
RAS will bill lump sum based on percent complete for each task item			Subtotal A: \$ 47,234.00

Task	Optional Services Description	Units	Unit Cost	Fee
1	Sign Inventory & Assessment (Lane Miles)	432	\$45	\$19,440
2	Sidewalk Inventory & Assessment (Lane Miles)	432	\$40	\$17,280
3	ADA Ramp Inventory & Assessment (Lane Miles)	432	\$30	\$12,960
4	Markings Inventory & Assessment (Lane Miles)	432	\$30	\$12,960
5	Striping Inventory & Assessment (Lane Miles)	432	\$40	\$17,280
6	Curb/Gutter Inventory & Assessment (Lane Miles)	432	\$45	\$19,440
7	Traffic Signal Inventory & Assessment (Lane Miles)	432	\$30	\$12,960
8	Annual Pavement Analysis Update - Bronze Package (Starting Year 2)	1	\$14,500	\$14,500
9	Annual Pavement Analysis Update - Silver Package (Starting Year 2)	1	\$17,000	\$17,000
10	Annual Pavement Analysis Update - Gold Package (Starting Year 2)	1	\$20,000	\$20,000
11	Mobilization for Falling Weight Deflectometer (FWD) testing (lump sum)	1	\$10,000	\$10,000
12	Falling Weight Deflectometer (FWD) analysis and reporting (SCI value in tables) (lane mile)	1	\$198	\$198
13	Traffic Control for Falling Weight Deflectometer (day - if shadow vehicle not supplied by County)	1	\$2,000	\$2,000
14	Sr GIS Analyst (Hours)	1	\$150	\$150
15	Sr Pavement Consultant (Hours)	1	\$275	\$275
16	Videologger & Data Viewer (Web Hosted)	1	\$7,500	\$7,500

We look forward to building a long-term relationship with the Village of Arlington Heights. Our team is prepared to deliver a scope of work that is tailored to the needs and goals of the Village stakeholders. Please do not hesitate to reach out with any questions or comments regarding these services.

Sincerely,



Zac Thomason, MBA
Senior Vice President
Roadway Asset Services, LLC.

